IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Docket No.: 13944
David Lewis Myers	Group No.: 1771
Serial No.: 09/340,771	Examiner: C. Pratt
Filed: June 28, 1999	
For: FIBROUS ELECTRET POLYMERIC ARTICLES	

Hon. Assistant Commissioner of Patents and Trademarks
Washington, DC 20231

DECLARATION ACCORDING TO 37 CFR §132

I, David L. Myers do state that:

I reside at 5970 Surrey Court, Cumming, GA 30040.

I have a BS in Chemistry, received in 1980 from the University of South Florida and a Ph. D. in Physical Chemistry, received in 1986 from Texas A&M University. I have been employed by Kimberly-Clark since 1992 working in the areas of analytical sciences, surface science, filtration and separation.

I am the inventor of the invention described in U.S. Application No. 09/340,771 and have read and understand its contents, including the most recent communications from the U.S. Patent and Trademark Office dated December 4, 2001, March 25, 2002 and April 9, 2002. While I am not an expert in patent law, I have had the substance of the Examiner's rejection explained to me by an Attorney of record, Mr. Christos S. Kyriakou. For the reasons set forth in detail below, it is my considered opinion that a person skilled

in the art would not have been motivated to combine the teachings of the references in the manner required by the Examiner's rejections. The reasons for my opinion relate principally to the nature of electrets and the nature of telomers.

ELECTRET MATERIALS

I have read and understand U.S. Patent Nos. 5,614,574, 6,045,694, 5,331,032, 5,045,210, 4,908,137, 4,591,441, 4,201,824, 3,906,064 and 3,758,605.

The above-listed U.S. patents relate to the addition of a charge to hydrophilic fibers via chemical groups that possess a valent charge.

Although, the above-listed U.S. patents describe various ways of adding a charge to hydrophilic fibers, the above-listed U.S. patents do not describe the addition of an electrostatic charge to fibers and do not relate to electret materials.

A valent charge is either positive or negative, corresponding to the presence of cationic or anionic groups, respectively. Notably, valent charges are always compensated in the sense that they occur in pairs. For example, if a surface is treated to produce quarternary amine groups that are cationic, the cation will be associated with an anion such as a halide ion (viz. Cl^{-1}, Br^{-1}, or I^{-1}). Thus, the quaternary amine halide salt has a net zero charge.

Electrets are dielectric materials that are treated to become electrostatically polarized and exhibit an electrostatic charge or field. Electrostatic charges and fields are fundamentally different from valent charges (i.e. cation and anion pairs). Electrostatic charges arise because of non-compensated electrical charges, which are present either on the surface and/or within the bulk of a dielectric material. While not wishing to be bound by any theoretical hypothesis as to the exact nature of the species responsible for the electrostatic charge, it is widely held that a negative electrostatic charge arises from an excess of electrons (e^-) within the dielectric material and a positive electrostatic

charge is associated with what are termed holes or electron vacancies giving rise to a dielectric material which is electron deficient.

Electrets exhibit an externally measurable electric field because they contain non-compensated electrical charge. An electrostatic charge is fundamentally different from a valent charge associated with a chemical group. Valent charges arise from the bonds between atoms of different electronegativities, wherein the electrons in those bonds are not shared equally and give rise to net formal charges on the bonded group of atoms (viz. quaternary amines or carboxylate salts). Valent charges are always compensated and do not exhibit or give rise to any electric field outside of the material.

A person skilled in the art of electrostatics considering the subject of electrets would not attempt to utilize the teachings of the above-listed U.S. patents because the above-listed U.S. patents describe hydrophilic materials with compensated valent charges and do not constitute electret materials. In addition, one would not attempt to impart an electrostatic charge on a hydrophilic material because adsorption of water molecules on the surface of the hydrophilic material would rapidly screen and/or compensate the electrostatic charge. The hydrophilic material would exhibit no external electrical field and therefore would not be an electret.

Although U.S. Patent No. 5,614,574 to Sheth et al. (hereinafter Sheth) describes filters and filtration materials generically, Sheth describes filter materials that comprise hydrophilic fibers having improved wettability that can be used to filter aqueous fluids, for example tea (col. 14 lines 9-10) and steam (col. 14 lines 26-27). A person skilled in the art of making electret based air filtration media would not use the hydrophilic materials described by Sheth as an electret based air filter because adsorption of water molecules on the surface of the hydrophilic material would rapidly screen and/or compensate the charge. The hydrophilic material would exhibit no external electrical field and therefore would not be an electret. Furthermore, a person skilled in the art of making electret based air filtration media would not use an electret material to filter steam. Steam is an aqueous environment at temperatures above the boiling point of water (100°C) and the electrostatic charge of an electret filter is screened out by moisture rendering the electret ineffective.

TELOMERS

I have read and understand U.S. Patent Nos. 5,614,574 to Sheth et al. (hereinafter Sheth).

Sheth describes the addition of a "POLYBOND" chemically grafted polyolefin copolymer (col. 8, line 25), specifically a polyolefin chemically grafted with an acrylic acid or maleic anhydride (col. 8, lines 23-24), and a specific hydrophilic modifier to improve the wettability of polyolefin fibers (col. 8, lines 32-35).

Sheth does not describe or teach the use of a telomer or telechelic polymer.

Telomers are fundamentally different from conventional polyolefins grafted with an acrylic acid or maleic anhydride in that in a telomer the location of the chemically reactive groups is at the ends of the polymer chains. These end groups are not polymeric. Specifically, an ABA triblock copolymer is not a telomer.

Crompton Corporation (formerly Uniroyal Chemical Corporation) currently markets at least eight different products using the POLYBOND® name. Of these eight products only three, POLYBOND® 3002, POLYBOND® 3150, and POLYBOND® 3200 can be considered as telomers. All three have the same basic chemistry, differing only in molecular weight and melt viscosity.

Furthermore, Sheth describes that the fibers of his invention have improved water wettability (col. 8, lines 32-35). Sheth clearly states that the addition of grafted polyolefin copolymers such as a POLYBOND acrylic acid or maleic anhydride grafted polyolefin copolymer to a polyolefin does not produce a wettable fiber (col. 8, lines 26-28). Sheth goes on to state that a hydrophilic modifier must be added along with the POLYBOND copolymer to provide the required wettability (col. 8, 8, lines 29-35). It is my professional opinion, which I believe would be shared by others skilled in this art, that Sheth is using a POLYBOND grafted polyolefin copolymer as a compatibilizer between the hydrophobic polyolefin and the hydrophilic modifier. The use of POLYBOND grafted polyolefin copolymers as compatibilizers is well known in the art, is suggested in sales literature

provided by the manufacturer and does not require or suggest the use of a telomer or telechelic polymer.

Because of my unfamiliarity with the legal requirements of patent documents, I have been assisted in the preparation of this affidavit by an Attorney of record, Christos S. Kyriakou, Esq.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

David L. Myers

5/6/02

Date